

wherein each input line is connected only to the isolation means and to a point between said first and second clamp diodes, and

wherein said diode clamp is operable in two modes, a first mode in which voltages are applied to said clamp terminals such that said diodes of said diode clamp are forward biased and hold said input line at a first voltage which prevents a passage of current from said input line to said common output, and a second mode in which the voltages are applied to said clamp terminals such that said diodes of said diode clamp are reverse biased and said passage of said current from said input line to said common output is allowed, and

wherein only two connections to the diode clamp control switching of the respective input line.

Wnd
D¹

6. (Twice Amended) An electric device comprising:

D²

an array of charge storage elements that are arranged in rows and columns and which are coupled to row and column conductors, said column conductors being arranged in at least one group, each group having a respective common output;

a multiplexer circuit for switching a selected one of a plurality of current inputs carried by respective input lines to said common output, said multiplexer circuit having, for each input line, a diode clamp with first and second clamp terminals and first and second clamp diodes arranged in series with the same polarity between said clamp terminals; and isolation means between each input line and said common output, wherein each input line is connected to the isolation means and to a point between said first and second clamp diodes, and wherein said diode clamp operates in a first mode in which voltages are applied to the clamp terminals such that said diodes of said diode clamp are forward biased and hold a first voltage that prevents the passage of current from said input line to said common output, and a second mode in which said diodes of said diode clamp are reverse biased allowing for the passage of a current from said input line to said common output, said multiplexer circuit couples said column conductors of said respective groups to said respective common output; and

a charge measurement device that measures a flow of charge from said common output; and

wherein only two connections to the diode clamp control switching of the respective input line.

*Cont'd
D2*

11. (Amended) An electric device comprising:

an array of charge storage elements that are arranged in rows and columns and which are coupled to row and column conductors, said column conductors being arranged in at least one group, each group having a respective common output;

D3
a multiplexer circuit for switching a selected one of a plurality of current inputs carried by respective input lines to said common output, said multiplexer circuit having, for each input line, a diode clamp with first and second clamp terminals and first and second clamp diodes arranged in series with the same polarity between said clamp terminals; and isolation means between each input line and said common output, wherein each input line is connected to the isolation means and to a point between said first and second clamp diodes, and wherein said diode clamp operates in a first mode in which voltages are applied to the clamp terminals such that said diodes of said diode clamp are forward biased and hold a first voltage that prevents the passage of current from said input line to said common output, and a second mode in which said diodes of said diode clamp are reverse biased allowing for the passage of a current from said input line to said common output, said multiplexer circuit couples said column conductors of said respective groups to said respective common output; and

a charge measurement device that measures a flow of charge from said common output,

wherein said charge storage elements comprise capacitive pixels having two diodes and a variable capacitor, the current measurement being used to determine the capacitance.